

WHAT IS CLAIMED IS:

1. An aluminum alloy structural plate excelling in strength and corrosion resistance, comprising 4.8-7% (mass%, 5 hereinafter the same) Zn, 1-3% Mg, 1-2.5% Cu, and 0.05-0.25% Zr, with the remaining portion consisting of Al and impurities, wherein the aluminum alloy structural plate has a structure containing 25% or more of grain boundaries with misorientations of 3-10° at the plate surface.

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2. The aluminum alloy structural plate excelling in strength and corrosion resistance, wherein the average grain size is 10 µm or less at the plate surface.

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3. A method of manufacturing an aluminum alloy structural plate excelling in strength and corrosion resistance, comprising: homogenizing an ingot of an aluminum alloy having the composition according to claim 1; hot rolling the ingot; repeatedly rolling the hot-rolled product at 400-150°C so that 20 the degree of working is 70% or more to produce a plate material with a specific thickness; subjecting the plate material to a solution heat treatment at 450-490°C for five minutes or more; and cooling the resulting plate material at a cooling rate of 10°C/second or more.

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4. A method of manufacturing an aluminum alloy structural plate excelling in strength and corrosion resistance,

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comprising: homogenizing an ingot of an aluminum alloy having
the above composition; hot rolling the ingot; repeatedly
rolling the hot-rolled product at 400-150°C in a state in which
rolls for hot rolling are heated at 40°C or more so that the
5 degree of working is 70% or more to produce a plate material
with a specific thickness; subjecting the plate material to a
solution heat treatment at 450-500°C for five minutes or more;
and cooling the resulting plate material at a cooling rate of
10°C/second or more.

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